



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/828,409	04/20/2004	Paul Mills	11033-065001 / A10871US	5534
26161	7590	03/11/2005	EXAMINER	
FISH & RICHARDSON PC 225 FRANKLIN ST BOSTON, MA 02110			EVANISKO, LESLIE J	
			ART UNIT	PAPER NUMBER
			2854	

DATE MAILED: 03/11/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/828,409	Applicant(s) MILLS, PAUL	
	Examiner Leslie J. Evanisko	Art Unit 2854	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 20 April 2004.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-28 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-5, 18, 19, 25, 27 and 28 is/are rejected.
- 7) ☒ Claim(s) 6-17, 20-24 and 26 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 20 April 2004 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>06-23-04 & 12-20-0</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Drawings

1. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(4) because reference character "22" has been used to designate both the plurality of ribbon guides (page 9, line 1) and one of the spindles (page 9, line 17). See also Figure 1.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Objections

2. Claims 1-24 and 27 are objected to because of the following informalities: With respect to claim 1, the term "the ribbon transport mechanism" in lines 8 and 13-14 (and in dependent claims 7-8) has no proper antecedent basis since

Art Unit: 2854

no ribbon transport mechanism was previously recited. To correct this problem, it is suggested that the term “a ribbon feed mechanism” in line 1 be deleted and replaced with --a ribbon transport mechanism-- to provide proper antecedent basis for the term later in the claim(s).

With respect to claim 3, it is suggested that the term “axis” in line 1 be deleted and replaced with --axes-- to use consistent terminology throughout the claims.

With respect to claim 5, it is suggested that the term “the support structure” in line 2 be deleted and replaced with --the supporting structure-- to again use consistent claim terminology throughout the claims.

With respect to claim 20, it is suggested that the term “its” in line 4 be deleted and replaced with the actual structure to which “its” is referring to insure the claim language is clear. Note a similar change should be made to the occurrence of “its” in claim 21.

With respect to claim 27, based upon the context of the other claim language, it appears the term “relate” in line 2 should be --relative--.

Additionally, the term “support” in line 2 should be --supporting-- to use consistent terminology throughout the claims.

Appropriate correction and/or clarification is required.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims 1-5, 18-19, 25 and 27 are rejected under 35 U.S.C. 102(b) as being anticipated by Ullenius et al. (EP 1 253 018 A1). Ullenius et al. teach an apparatus for controlling a ribbon transport mechanism of a ribbon feed system which includes a supporting structure 32 supporting a plurality of ribbon transport devices including a ribbon storage spool 106, a ribbon take-up spool 110, and at least one ribbon guide 108, 112 around which the ribbon is passed, there being a ribbon feed path including the ribbon guide, between the storage and take-up spools through an operating station (near printhead 96 & platen 102) where a work operation (i.e., printing) is carried out which utilizes the ribbon, the ribbon transport mechanism, in use, transporting the ribbon along the ribbon feed path between the storage and take-up spools, the apparatus including a mounting structure 148 for mounting at least one of the ribbon transport devices 108, 112 so as to permit the device to move relative to the supporting structure in response to changes in ribbon tension occurring the in the ribbon feed path, and a sensor device 194 which is sensitive to such

Art Unit: 2854

movements to provide an input which is dependent upon the extent of such movement, to a controller (i.e., the electronics described in column 8, lines 28-34), the controller controlling operation of the ribbon transport mechanism in response (see paragraph [0036] and [0042]). Additional attention is invited to Figures 3 and 5 in particular.

With respect to claims 2 and 3, note Ullenius et al. teach the ribbon take-up spool 110 and ribbon storage spool 106 are rotatable about respective rotational axes, the rotational axes of the spools are generally normal to the direction of ribbon movement around the ribbon feed path (as shown in Figure 3).

With respect to claims 4 and 5, note each of the ribbon guides 108, 112 of Ullenius et al. has an axis generally normal to the direction of ribbon movement and the sensed movement of the ribbon transport device relative to the supporting structure is in a direction transverse to the direction of the axis of the device, as shown in Figures 3 and 5.

With respect to claims 18-19, note the dancer arm assembly 108 includes various shafts and rollers 154, 178, 186, 160, 162 described in paragraphs [0031] and [0032] and the movement of the dancing arm assembly 108 relative to the supporting structure 148, 32 in response to changes in ribbon tension are sensed by the sensor device to provide the input to the controller.

With respect to claims 25 and 27, note Ullenius et al. teach a method of controlling a ribbon transport mechanism including all of the method steps as recited. Note the above comments with respect to claims 1 and 18 in particular.

5. Claim 28 is rejected under 35 U.S.C. 102(b) as being anticipated by Clevinger (US 5,873,662). Clevinger teaches a method of determining when a ribbon in a ribbon feed system has broken, the ribbon feed system including in a supporting structure carrying a plurality of ribbon transport devices including a ribbon storage spool 20, 30, a ribbon take-up spool 40, and at least one ribbon guide 110, around which the ribbon R is passed, there being a ribbon feed path including the ribbon guide, between the storage and take-up spools through an operating station (at printhead 50) where a work operation (i.e., printing) is carried out which utilizes the ribbon, and a ribbon transport mechanism for transporting the ribbon along the ribbon feed path between the storage and take-up spools, the method including providing at least one of the ribbon transport devices on a mounting structure 100 which permits the respective device to move relative to the supporting structure in response to changes in ribbon tension occurring in the ribbon feed path and sensing with a sensor device 109, 150 a movement of one of the ribbon transport devices 110 which indicates that the ribbon has broken, and providing an input from the sensor device to a controller which operates an indicating device which

indicates that the ribbon has broken. See column 4, lines 17-42 of Clevinger in particular.

Allowable Subject Matter

6. Claims 6-17, 20-24, and 26 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

7. The following is a statement of reasons for the indication of allowable subject matter:

With respect to claims 6 and 26 in particular, the prior art of record fails to teach or fairly suggest an apparatus for controlling a ribbon transport mechanism (or method) of a ribbon feed system including all of the structure (or method steps) as recited, in combination with and particularly including, first and second mounting structures for the storage spool and take-up spool respectively *permitting respective spool movements relative to the supporting structure in response to changes in ribbon tension* and a sensor device for each mounting structure to sense spool movements attributable to changes occurring in the ribbon tension.

With respect to claims 20, 22, and 24 in particular, the prior art of record fails to teach or fairly suggest an apparatus for controlling a ribbon transport mechanism of a ribbon feed system including all of the structure as recited, in combination with and particularly including, the particular details of

the mounting structure, ribbon guide roller, and sensor device as specifically recited in the claims.

Conclusion

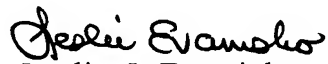
8. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Mikojima et al. (JP 62-273878), Mima (JP 63-276586), Konuma et al. (JP 64-8076), and Takahashi et al. (JP 1-262178) each teach a ribbon transporting mechanism having obvious similarities to the claimed subject matter.

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to **Leslie J. Evanisko** whose telephone number is **(571) 272-2161**. The examiner can normally be reached on M-Th 7:30 am-6:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Andrew H. Hirshfeld can be reached on (571) 272-2168. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Art Unit: 2854

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


Leslie J. Evanisko
Primary Examiner
Art Unit 2854

lje
March 6, 2005